

### **REMARKS**

The Applicant appreciates the thoroughness with which the subject application has been examined. By this Amendment claims 1, 4, 8 and 14 have been amended to overcome the Examiner's rejections and objections and more concisely claim and describe the present invention. Claims 19-24 have been cancelled, without prejudice. New claim 25 has been added. Claims 1-18 and 25 remain in the application for reconsideration by the Examiner. The Examiner's allowance of all pending claims is earnestly solicited.

### **MATTERS RELATED TO THE SPECIFICATION**

As requested by the Examiner, the Applicant has added a reference to Figure 4 in the "BRIEF DESCRIPTION OF THE DRAWINGS" section.

### **MATTERS RELATED TO THE CLAIMS**

The Examiner has rejected claims 1-24 under Section 102(b) as anticipated by "Prior Art" Figures 6A and 6B and paragraph 22 of the instant application.

The Applicant notes that Figures 6A and 6B are not labeled Prior Art and are not intended to depict prior art. Further, paragraph 22 specifically refers to Figures 6A and 6B as depicting, "teachings of the present invention." Since these drawings and the text reference are not prior art this rejection is without merit.

Claims 1-24 stand rejected under Section 102(b) as anticipated by Thornley (3,655,429).

To further define the invention over the cited art, the Applicant has amended claim 1 as set forth above in the marked-up version of the claim. In particular, the third paragraph of claim 1 now reads, "a detector responsive to the signals for averaging the signals produced by each one of the plurality of read heads and in response thereto determining the data bit value represented by the magnetization." Support for this amendment can be found in the Applicant's paragraph [0023].

Thornley discloses, “combining [an output signal] with previous and subsequent signals caused by repeated reading of the same spot.” The Examiner’s attention is also directed to column 1, line 72, where Thornley states that, “the output is accumulated in either digital or analog form.” Thornley includes numerous other references to “combining” signals, including, “combining the results of the repeated accesses of each of the indicia to form a single enhanced output representative of that one of the indicia. At column 5, line 13, Thornley states that, “each of the indicia is converted into a digital signal and added to itself N times before being placed on the data signal line.” Further, beginning at line 15 of column 3, Thornley states, “Repetition of the reading of the indicia and the enhancement of the resultant electrical signal accumulates in each of the delay circuits until a fully enhanced version of indicia 16 appears on line ‘track 1’ of read bus 5.”

There is no disclosure within Thornley of, “averaging the signals produced by each one of the plurality of read heads.” Combining is not averaging.

It is respectfully submitted that each of the dependent claims, 2-7, depending directly or indirectly from amended independent claim 1, includes one or more elements that further distinguish the invention over the art of record. These claims should therefore be in condition for allowance. In particular, dependent claim 4, which has been amended as set forth above, refers to, “the data bits are stored along concentric circular tracks of the magnetic storage disk, and wherein the plurality of heads are oriented on a circular arc such that the plurality of heads serially read the data bits stored along the track.” Thornley neither discloses nor suggests the elements of the Applicant’s amended claim 4. Thornley discloses a linear arrangement of the heads 200-204 to read data from a magnetic tape. See in particular Thornley’s Figures 1b, 2a and 2b.

The Applicant has added a new claim 25, depending from claim 1, claiming the read heads comprises a magneto-resistive sensor as described by the Applicant in paragraph [0007]. The use of magneto-resistive heads is not disclosed by Thornley, instead he discloses gap-type heads operative with a winding, as illustrated in Thornley’s Figure 3.

Independent method claim 8 and its dependent claims 9-13 also stand rejected under Section 102(b) over Thornley.

To more concisely claim the present invention, the Applicant has amended claim 8 as set forth above. In particular, the last paragraph now states, "averaging the plurality of signals to determine the data bit value represented by the magnetized region."

As discussed above, the averaging concept is not present in Thornley, as he discloses combining the signals that are read from the indicia on a medium.

It is respectfully submitted that each of the dependent claims, 9-13, depending from amended independent claim 8, includes one or more elements that further distinguish the invention over the art of record. These claims should therefore be in condition for allowance.

Independent apparatus claims 14 and its dependent claims 15-18 have been rejected under Section 102(b) as unpatentable over Thornley.

The Applicant has amended claim 14 as set forth above, including a reference to a signal component and a noise component in the third claim paragraph. The last paragraph of the claim has been amended to, "a detector responsive to the signals for summing the signal components and for combining the noise components according to their root mean square values to determine the data bit represented by the state of the one or more storage regions." Since Thornley does not disclose the Applicant's technique regarding the signal and noise components as set forth in amended claim 14, the claim is respectfully believed to be patentable thereover.

It is respectfully submitted that each of the dependent claims 15-18 depending from amended independent claim 14, includes one or more elements that further distinguish the invention over the art of record. These claims should therefore be in condition for allowance.

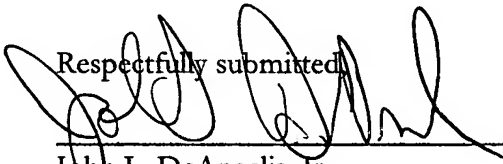
Claims 19-24 have been cancelled, with the Applicant reserving the right to prosecute these or similar claims in a continuing application. Cancellation of these claims is not to be construed as an admission as to the validity of the rejection or the applicability of the cited art.

The Applicant has attempted to comply with all of the points raised in the Office Action and it is believed that the remaining claims in the application, i.e., claims 1-18 and 25 are in condition for allowance. In view of these remarks, it is requested that the Examiner's rejection of these claims has been overcome. It is respectfully requested that the Examiner reconsider these rejections and issue a Notice of Allowance for all pending claims.

The Applicant hereby petitions for an extension of time of one month under 37 C.F.R. 1.136. A check made payable to the Commissioner for Patents is enclosed in payment of the extension of time fee.

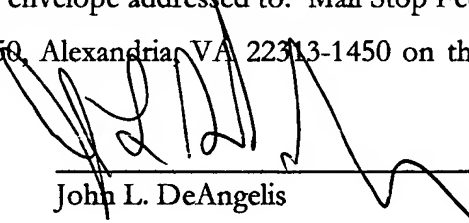
If a telephone conference will assist in clarifying or expediting this Amendment, the Examiner is invited to contact the undersigned at the telephone number below.

Respectfully submitted,

  
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John L. DeAngelis, Jr.  
Reg. No. 30,622  
Beusse Brownlee Wolter Mora & Maire, P.A.  
390 North Orange Avenue, Suite 2500  
Orlando, FL 32801  
(407) 926-7710

CERTIFICATE OF MAILING

I HEREBY CERTIFY that the foregoing Amendment is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Mail Stop Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 26th day of May, 2005.

  
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John L. DeAngelis